

Executive Spotlight

**Dr. Homaira Akbari,
President + CEO,
SkyBitz**

Dr. Akbari has more than 18 years of strategic, sales and marketing, product development and operational experience across many critical high-technology industries including software applications, IT services, security systems for homeland defense, telematics and location-based services, and telecom. Dr. Akbari has held senior management positions in TruePosition — a subsidiary of Liberty Media Corporation, Microsoft, Thales, Cambridge Strategic Management Group (CSMG), and worked as a scientist at CERN, the European Center for Nuclear Research. She draws on her international experience including nine years in Paris, London, Beijing and Cape Town. She holds a Ph.D. with honors in particle physics from Tufts University and an MBA with distinction from Carnegie Mellon University. She is the author of more than 50 scientific articles in international journals and a frequent speaker at industry conferences and tradeshows. She serves as a judge at MIT \$100K Business Plan Competition, is a member of the Advisory Council of the Johns Hopkins Department of Physics and Astronomy and The Loudoun County CEO Cabinet, and is a contributor to several nonprofit organizations. Washington Business Journal named Dr. Akbari among its “Women Who Mean Business” in 2008.

SatMagazine (SM)

Dr. Akbari, thanks for taking the time to chat with our readers. First of all, would you please tell us something of your background and how you initially became interested in satellite communications?

Dr. Akbari

I became President and CEO of SkyBitz in October 2007. I came to the company after serving as Executive Vice President for Operations with TruePosition, a wireless location technology provider. My past experience also included stints as a senior director for Microsoft, as a corporate vice president at Thales and as a scientist for CERN, the European Center for Nuclear Research. I have a Ph.D. with honors in particle physics from Tufts University and an MBA with distinction from Carnegie Mellon University. I've always had an interest in technology overall and in the late 90s I saw an opportunity for connected assets through satellite technology. When I was recruited to join SkyBitz, I was able to realize my vision through their satellite-based M2M solutions.

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What led you to become the President and CEO of SkyBitz?

Dr. Akbari

I have been working in and out of location-based technology services since 2001 and it has always been important to me to stay in touch with the contacts that I meet. I met one of the SkyBitz board members in 2007. We kept in touch and built a relationship. Eventually I was called and offered the CEO position in October 2007.

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What is SkyBitz' history in this market segment?

Dr. Akbari

SkyBitz was born out of innovation, which has been the backbone of the company's success. The company was originally founded as Eagle Eye Technologies, Inc. in 1992 and was awarded two contracts to design a satellite based tracking system by the Defense Advanced Research Projects Agency (DARPA) in 1994. This led to the development of SkyBitz's patented Global Locating System (GLS) technology and communications protocol and the start of what is now the industry leader in remote and unpowered asset tracking marketplace. SkyBitz has been commercially available since 2002 and has received many awards recognizing the company for its continued growth in the market year after year. In 2009, DARPA released a feature case study documenting how SkyBitz successfully launched DARPA-funded technology into private, government and international markets. SkyBitz has continued to innovate and bring new products and solutions to the market and in-turn, grow its customer base.

We specialize in real-time decision-making tools for companies with unpowered assets such as trailers, containers, rail cars, power generators, heavy equipment

and other assets. We serve a wide variety of industries including transportation, construction, oil & gas, chemical, intermodal and government operations.

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Have you always had an interest in asset tracking, your Company's main focus?

Dr. Akbari

As I watched mobile telephony increase by roughly 35 percent in the mid-90s, it occurred to me that any service that tells us where things or people are located, is going to be the future. In early 2000 I was already working on enterprise and consumer based asset tracking and was thinking about how it could be expanded upon to connect assets and increase productivity.

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How do asset tracking products differentiate themselves for government and military clients as opposed to those in the commercial realm?

Dr. Akbari

For SkyBitz, the government and military clients are looking to track and manage their assets for better utilization, like our commercial clients do, but security and safety are a larger concern. Also, it is critically important for the product or solution to be compatible or able to integrate with existing government/military ERP systems.



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SkyBitz has an open API that allows our solution to be flexible for integration. Government and military customers are also concerned with keeping costs low and maintaining reliable situational awareness of their assets. Also, in the defense agency realm, assets are moved to remote or rural locations, which requires satellite connectivity with global coverage with extended device battery life. 36 percent of DoD assets are overseas — with heavy movement between multiple theatres. The SkyBitz GLS platform is well suited for the government sector due to the security of the location data, efficiency of its information gathering and communications protocol, as well as its accuracy and reliability.

Satellite communication has been important to both government/military and commercial SkyBitz customers in order to maintain total visibility of their assets. SkyBitz built a Global Location System platform, which supports a large number of location technologies, communication network infrastructure, short-range technologies, and sensing technologies.

With our commercial customers we focus more on helping them improve their business operations concerning better asset utilization and gaining efficiencies to save them money. Our products and solutions also help them generate more revenue through intelligence for detention billing and as a theft deterrent as well as providing better customer service and meeting government compliance regulations.

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As a leader in asset tracking solutions, how do you see companies and governments evolving to address the growing need for better global supply chain visibility?

Dr. Akbari

I see companies and governments turning to technology solutions to provide more reporting and sharing of information between objects and people for a smarter supply chain. Without asset monitoring services deployed all along the chain of custody, customers must perform status checks manually, which results in increased labor costs and inefficient use of assets.

One of the key trends is the convergence of local-area and wide-area tracking and monitoring technologies. Connecting these technologies to each other is necessary but it needs to go a step further. Ultimately, total visibility will be achieved at the platform level whereby supply chain ERP software connects all the disparate components of asset visibility and security.

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How do you deal with data delivery to and from the tracked devices to your firm's Data Center?

Dr. Akbari

It depends on the product. Our main solution, GLS, is a unique protocol where information is transmitted from

the SkyBitz Mobile Terminal to the SkyBitz Satellite Gateway over an L-band satellite link using a GLS-burst-message-optimized proprietary protocol. The proprietary GLS processing system at the Gateway then calculates the position of the Mobile Terminal, rather than the Mobile Terminal calculating its position remotely (this is key to our devices having industry leading battery life — making them ideal for non-powered assets). Data is then transferred to the Service Operation Center for processing. After receiving data from the Satellite Gateway, the Service Operation Center processes it for delivery over the Internet to our web-based application, InSight, or for integration into various fleet dispatch operating systems or ERPs. SkyBitz InSight offers a comprehensive, secure web-based asset-monitoring and information management tool. SkyBitz InSight delivers a global view of operations or asset-level specifics.

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Please explain how SkyBitz differentiates itself from other tracking service companies in regards to your use of a different SatCom protocol? What makes your patented system better than those reliant upon GPS?

Dr. Akbari

The most important differentiation of SkyBitz is that we put our customers and their needs at the center of everything we do. From technology, to the software platform, to services, to our customer support, we thrive on exceeding our customer's expectations and delivering value every day. One of the top benefits our customers tell us is important to them is getting accurate information that allows them to make quick decisions to improve their business operations. The patented SkyBitz GLS technology provides a powerful, long-term solution to the complex problem of remote asset tracking and information management. SkyBitz GLS technology is able to achieve better power efficiency than GPS-based technologies because the position of an asset is calculated at the SkyBitz Data Center and then delivered to end-users through a web-based easy-to-use platform called SkyBitz InSight.

Communication on the SkyBitz GLS network is achieved through the use of bi-directional satellite communication and customers can reconfigure the unit remotely using InSight and then it reports directly back to them. Our customers gain total visibility and control over their tracked assets through SkyBitz InSight, with no complex integration or software installation. The real differentiator for us is SkyBitz InSight, which provides real time information that is integrated into our customers businesses, allowing them to make smart decisions based on all the facts. SkyBitz InSight is personalized, fully customizable and provides robust reports that are downloadable. The combined real value of GLS plus SkyBitz InSight, customers tell us, is a long lasting solution that lets them set their own business rules, which in turn leads to significantly increasing their operational efficiencies and lowering their cost of ownership. Other providers utilize traditional GPS

chipset-based communicators that are not well suited for installation on assets that remain un-tethered and un-powered over long periods.

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What are some of your Company's latest successes?

Dr. Akbari

In January 2010, SkyBitz launched its latest asset tracking solution, the GLS400, a finalist for the Telematics Update Award (Best Telematics Service & Applications for commercial vehicles category). Sales of this new solution in January alone, were four times greater than the average monthly sales of products during the previous year. Since then, SkyBitz experienced stellar sales the first half of 2011, with strong bookings and revenue growth. This is the result of key new customer acquisitions and existing customers' re-commitments as well as strategic vertical market expansion. The company's operations expanded to a truly global platform via a new long term partnership with Iridium Communications and their global satellite network coverage. Also, SkyBitz

has been named in Inc. Magazine's Inc. 5000 list five straight years, including 2011. This year I was named as a winner of a Washington SmartCEO 2011 Brava! Award. With new solutions and additional enhancements yet to be announced, the company is uniquely positioned to continue on this growth path and further solidify its position as the North American market-share leader through 2011 and beyond.

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With all the technologies available to organizations and government agencies, where do you see the next big advances coming from?

Dr. Akbari

I think the next big advances will come from technologies (hardware and software) that connect the dots for people and makes things simpler for both the consumer and for businesses. For example, technologies that can figure out a simpler way for consumers to interact with applications "apps" will be big. Today, consumers and businesses must decide on every individual app they

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want to download to solve individual needs. In the future, if someone can come up with a way to get multiple apps into one — to come together to solve multiple issues, they will have a big winner on their hands.

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As companies try to stay ahead of their competition and find themselves further expanding their operations globally, what does this mean for national security concerns? What can be done to insure proper precautions are taken to recover theft and properly track shipments and confirm those shipments are what they say they are? This is especially crucial when it comes to various military shipments.

Dr. Akbari

With globalization of the supply chain, the movement of goods across the entire chain of custody is becoming complex and vulnerable — making it difficult to have control and total asset visibility at several levels. In terms of asset visibility, operations managers and executives are flooded with more information than ever and they still struggle to “see” and act on the right information. National Security and total asset visibility in vital components of supply chain (manufacturing, transportation and trans-shipment, warehousing and distribution, etc.) can be achieved if businesses have connected assets integrated into their ERPs. An asset tracking and information management solution can help companies accurately track their assets, learn the status of each asset in near real time, and quickly recover from theft by learning its location position, or even communicating back to the asset.

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We touched earlier on companies expanding operations globally. What regions that have been slow to adopt sophisticated asset tracking solutions do you see taking off in the near future? What challenges may be associated with this adoption?

Dr. Akbari

I’m not so sure it’s a matter of slow adoption in regions vs. getting the right technology out. One of the main challenges to adoption is regulatory issues. Mainly, regulatory issues as they pertain to terrestrial roaming requirements (and associated charges) and satellite, regarding landing rights. To expand within a country, it is less difficult, but to cross countries’ borders, which is typically where commerce works in transportation, this becomes an issue. Regulations are not consistent amongst countries.

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With the increasing interest in M2M and mobile communications, what role do you see this playing in asset tracking? Is there a role for it in asset tracking? Do you have any current or potential agreements with companies involved in the M2M environs?

Dr. Akbari

With more than two thirds of the world’s population having adopted mobile telephony, the next big fundamental change in our lives will come from “Internet of Things” which connects physical assets to people and to each other. While there are 6.8 billion people on the planet, there are trillions of assets (consumer-based as well as enterprise-based) in the world.

Many companies rely on large physical assets and equipment to do their business. Assets are like people. You need to manage them in order to have an efficient business. For enterprises, the proposition revolves around three fundamentals: Increasing the utilization of an asset, optimizing asset’s operational parameters and improving the securitization of the asset. There are a large number of different types of assets. SkyBitz’s current focus is on wide-area, large and remote enterprise assets. Our customers are consistently gaining 600 percent return on investment in the first year of adoption of our solution.

The adoption of asset management technology is on the rise across all our company’s targeted verticals. SkyBitz experienced stellar sales the first half of the year, with strong bookings and revenue growth. Product shipments for the first half of 2011 are up over 35 percent when compared to the same time period in 2010.

Oil & Gas, Chemical Market: Increasing fuel charges, at-risk current reserves and continuously higher demand have resulted in a booming industry and has generated



dramatically higher revenues; demand driven by increasing efficiency, asset security and environmental concerns.

Trucking: After a major depression in this industry in 2008 and 2009, the industry has seen a strong rebound. Global trailer production has been over-booked for the next 12-18 months and is expected to accelerate due to improving economic conditions and the need to expand and replace aging fleets (the growth is estimated at 12+ percent as compared to 3 percent historical numbers).

Heavy Equipment and Construction: Experienced huge growth in last 12 months driven by improved billing accuracy, increased regulations (California Air Resources Board) and the need for reduced costs in equipment maintenance.

Government: Driven by the Department of Defense's desire for total asset visibility in the supply chain; regulatory issues and the need for cost reduction (led in large part by Ashton Carter) requires much higher utilization of assets.

Intermodal: Consistently becoming an alternative for long-haul freight shipment; experienced 35 percent+ growth in 2010; increasingly competitive with trucking in quality of service.

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In one to two years, how do you see the landscape of asset tracking evolving? What challenges or issues will need to be addressed that are not prominent issues today?

Dr. Akbari

Today there is fragmentation, and, in the M2M enterprise world specifically, there are individual technologies to handle different business issues like in-cab technology, field tracking, and software for route planning. There are too many separate technologies that businesses must adopt in order to solve their business issues. In the future I see companies bringing together the hardware and the software layers on a unified platform, it will make it easier for businesses to manage their operations and adopt technology solutions. At SkyBitz, we're already converging local area Telematics with wide area.

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Fewer qualified professionals will be available over the coming years for careers in the various fields and disciplines required by SatCom and ancillary businesses, thanks to a profound lack of education in the disciplines required for success. How do you feel our industry should promote the opportunities for highly respected and well paying careers in SatCom, and how can the industry assist in STEM curriculum in our schools?

Dr. Akbari

I agree the industry needs to encourage and support STEM education in order to develop the talent needed in the future. Coincidentally, I recently spoke to a group of students and faculty at Johns Hopkins University Zanvyl Krieger School of Arts and Sciences and the Department of Physics & Astronomy about how a physics education can well-prepare students for many different career options. I presented alternative career models for physicists in fields ranging from Wall Street, Defense, Technology and Venture Capital. As part of this research, I interviewed a number of successful physicists who have taken key positions in government and the business world, outside of the traditional roles most people think of when they think of physics education. I also shared my background and experience after getting a Ph.D. in particle physics from Tufts University and later a MBA from Carnegie Mellon University, which has helped me in the business world. I believe scientists and especially physicists (whether they are in academia or research) have an important role to play in advancement of our society across many dimensions.

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Lastly, as you look back upon your career, what products or projects are you most proud of bringing to fruition?

Dr. Akbari

I'm most proud of my time at SkyBitz and working with the talented team there to produce a culture of teamwork and innovation. When I first started at SkyBitz, I worked hard to transform the culture of the company from an engineering oriented focus. We changed from being an inward focused technology company to an externally based, market focused enterprise. As a result we have created a growing ecosystem of partners and suppliers. We are the market share leader in asset tracking in the U.S. and a thriving, growing company that has remained profitable even during the economic recession. When I joined the company, it was not EBITDA positive. We have created a diversified set of products and solutions and are now positioned to go global.

